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5 1. A backbone cyclized somatostatin analog that incorporates at least one building unit, said building unit containing one nitrogen atom of the peptide backbone connected to a bridging group comprising an amide, thioether, thioester, or disulfide, wherein the at least one building unit is connected via the bridging group to form a cyclic structure with a moiety selected from the group consisting of a second building unit, the side chain of an  
10 amino acid residue of the sequence or the N-terminal amino acid residue.

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Q is hydrogen or a mono- or di- saccharide

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R<sup>7</sup> is (D)- or (L)-Trp, (D)- or (L)-Phe, (D)- or (L)-1NaI, (D)- or (L)-2NaI, or Tyr;

R<sup>9</sup> is (D)- or (L)-Lys;

R<sup>11</sup> is (D)- or (L)-Phe, (D)- or (L)-Ala, Nle, or Cys; and

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Q is hydrogen;

R<sup>6</sup> is Phe;

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R<sup>7</sup> is Trp;

X is an amide.

20 X is an amide.

$$\text{NR}^6\text{-R}^7\text{-(D)Trp-Lys-R}^{10}\text{-R}^{11}\text{-NR}^{12}\text{-X}$$
  

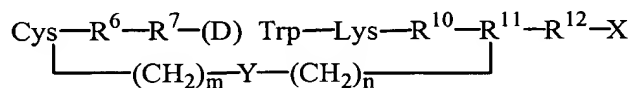
$$\quad \quad \quad \underbrace{\hspace{10em}}_{(\text{CH}_2)_m\text{-Y-(CH}_2)_n}$$

Formula No. 8

35 Y<sup>2</sup> is amide, thioether, thioester or disulfide.



9. The backbone cyclized somatostatin analog of claim 1 having the general formula  
13;



Formula No. 13

wherein m and n are 1 to 5;

X designates a terminal carboxy acid, amide or alcohol group;

10 R<sup>6</sup> is (D)- or (L)-Phe or Tyr;

R<sup>7</sup> is (D)- or (L)-Trp, (D)- or (L)-Phe, (D)- or (L)- 1NaI or (D)- or (L)- 2NaI, or Tyr;

R<sup>10</sup> is Thr, Gly, Abu, Ser, Cys, Val, (D)- or (L)-Ala, or (D)- or (L)-Phe;

R<sup>11</sup> is (D)- or (L)-Phe or (D)- or (L)-Ala;

15 R<sup>12</sup> is Gly, Val, or (D)- or (L)-Phe; and

$Y^2$  is thioether, thioester or disulfide.

10. The backbone cyclized somatostatin analog of claim 9 wherein:

R<sup>6</sup> is Phe;

20             $R^7$  is Trp;

R<sup>10</sup> is Thr;

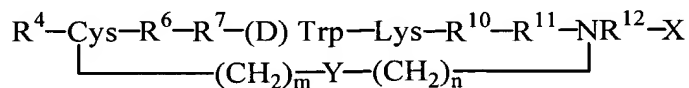
R<sup>11</sup> is Phe;

R<sup>12</sup> is Gly; and

$\text{Y}^2$  is disulfide.

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11. The backbone cyclized somatostatin analog of claim 1 having the general formula  
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Formula No. 14

wherein m and n are 1 to 5;

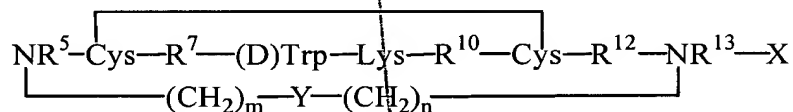
X designates a terminal carboxy acid, amide or alcohol group;

35 R<sup>4</sup> is (D)- or (L)-Phe or Tyr;

$Y^2$  is thioether, thioester or disulfide.

$\text{Y}^2$  is disulfide.

15:



Formula No. 15

$Y^2$  is amide, thioether, thioester or disulfide.

R<sup>7</sup> is Phe;

R<sup>10</sup> is Thr;  
R<sup>12</sup> is Gly, Val, or (D)- or (L)-Phe;  
R<sup>13</sup> is Phe; and  
Y<sup>2</sup> is amide.

5 15. The backbone cyclized somatostatin analog of claim 1 having the formula:

10 Phe(N2)-Tyr-(D)2Nal-Lys-Val-Gly(C2)-Thr-X;  
Phe(N2)-Tyr-(D)Trp-Lys-Val-Gly(C2)-2Nal-X;  
Phe(N2)-Tyr-(D)Trp-Lys-Val-Val-Gly(C2)-X;  
Phe(N2)-Tyr-(D)Trp-Lys-Ser-2Nal-Gly(C2)-X;  
Phe(N2)-Phe-(D)Trp-Lys-Thr-2Nal-Gly(C2)-X;  
GABA\*-Phe-Trp-(D)Trp-Lys-Thr-Phe-Gly(C3)-X;  
15 Cys\*-Phe-Trp-(D)Trp-Lys-Thr-Phe-Gly(S2)-X;  
Phe(C3)-Cys\*-Phe-(D)Trp-Lys-Thr-Cys\*-Phe-Phe(N3)-X;  
(D)Phe-Cys\*-Phe-Trp-(D)Trp-Lys-Thr-Phe-Gly(S2)-X; or  
Galactose-Dab\*-Phe-Trp-(D)Trp-Lys-Thr-Phe-Gly(C3)-X;

20 wherein X designates a terminal carboxy acid, amide, or alcohol group; the asterisk denotes that the bridging group is connected between the N<sup>α</sup>-ω-functionalized derivative of an amino acid and the N-terminus of the peptide or the side chain of the Cys residue.

25 16. A pharmaceutical composition comprising a backbone cyclized somatostatin analog according to claim 1 and a pharmaceutically acceptable carrier.

17. The composition according to claim 16 wherein the backbone cyclic analog is selective for one somatostatin receptor subtypes.

30 18. The composition according to claim 16 wherein the backbone cyclic analog is selective for two somatostatin receptor subtypes.

19. A method for treating disorders selected from the group consisting of atherosclerosis, autoimmune diseases, cancers, diabetic-associated complications, endocrine disorders, inflammation, gastrointestinal disorders, pancreatitis, post-surgical pain, and restenosis comprising administering to a mammal in need thereof a pharmaceutical

composition comprising a therapeutically effective amount of a backbone cyclized somatostatin analog according to claim 1.

20. The method according to claim 19 wherein the backbone cyclic analog is selective  
5 for one somatostatin receptor subtype.

21. The method according to claim 19 wherein the backbone cyclic analog is selective  
for two somatostatin receptor subtypes.

10 22. A method for diagnosing cancer comprising administration of a backbone cyclized somatostatin analog of claim 1.

23. The method according to claim 22 wherein the backbone cyclic analog is used for  
imaging the existence of metastases.

15 24. The method according to claim 22 wherein the backbone cyclic analog is labeled with a detectable probe.

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